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Sequence Listing was accepted.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: Fri Sep 28 17:41:25 EDT 2007

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Application No: 10758524 Version No: 2.0

Input Set:

Output Set:

Started: 2007-09-14 11:27:42.124
Finished: 2007-09-14 11:27:46.606
Elapsed: 0 hr(s) 0 min(s) 4 sec(s) 482 ms
Total Warnings: 53
Total Errors: 4
No. of SeqIDs Defined: 59
Actual SeqID Count: 59

| Error code | Error Description |
|------------|---|
| W 213 | Artificial or Unknown found in <213> in SEQ ID (7) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (8) |
| E 224 | <220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (8) |
| E 341 | 'Xaa' position not defined SEQID (8) POS (439) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (9) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (10) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (11) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (12) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (13) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (14) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (15) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (16) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (17) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (18) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (19) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (20) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (21) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (22) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (23) |

Input Set:

Output Set:

Started: 2007-09-14 11:27:42.124
Finished: 2007-09-14 11:27:46.606
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Total Warnings: 53
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Actual SeqID Count: 59

| Error code | Error Description |
|------------|--|
| W 213 | Artificial or Unknown found in <213> in SEQ ID (24) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (25) |
| W 213 | Artificial or Unknown found in <213> in SEQ ID (26) This error has occurred more than 20 times, will not be displayed |
| E 341 | 'Xaa' position not defined SEQID (26) POS (502) |
| E 341 | 'Xaa' position not defined SEQID (30) POS (502) |

SEQUENCE LISTING

<110> Jaworski, Jan G.
Blacklock, Brenda J.

<120> FATTY ACID ELONGASE 3-KETOACYL COA
SYNTHASE POLYPEPTIDES

<130> 07148-108002

<140> 10758524

<141> 2004-01-15

<150> 09/877,476

<151> 2001-06-08

<150> 60/210,326

<151> 2000-06-08

<160> 59

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1709

<212> DNA

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| 1 5 10 15 | |

| | |
|---|----|
| ttt ttc aac ctc tgt ttg ttc ccg tta acg gcg ttc ctc gcc gga aaa | 96 |
| Phe Phe Asn Leu Cys Leu Phe Pro Leu Thr Ala Phe Leu Ala Gly Lys | |
| 20 25 30 | |

| | |
|---|-----|
| gcc tct cgg ctt acc ata aac gat ctc cac aac ttc ctt tcc tat ctc | 144 |
| Ala Ser Arg Leu Thr Ile Asn Asp Leu His Asn Phe Leu Ser Tyr Leu | |
| 35 40 45 | |

| | |
|---|-----|
| caa cac aac ctt ata aca gta act tta ctc ttt gct ttc act gtt ttc | 192 |
| Gln His Asn Leu Ile Thr Val Thr Leu Leu Phe Ala Phe Thr Val Phe | |
| 50 55 60 | |

| | |
|---|-----|
| ggg ttg gtt ctc tac atc gta acc cga ccc aat ccg gtt tat ctc gtt | 240 |
| Gly Leu Val Leu Tyr Ile Val Thr Arg Pro Asn Pro Val Tyr Leu Val | |
| 65 70 75 80 | |

| | |
|---|-----|
| gac tac tcg tgt tac ctt cca cca ccg cat ctc aaa gtt agt gtc tct | 288 |
| Asp Tyr Ser Cys Tyr Leu Pro Pro Pro His Leu Lys Val Ser Val Ser | |
| 85 90 95 | |

| | |
|---|-----|
| aaa gtc atg gat att ttc tac caa ata aga aaa gct gat act tct tca | 336 |
| Lys Val Met Asp Ile Phe Tyr Gln Ile Arg Lys Ala Asp Thr Ser Ser | |
| 100 105 110 | |
| cgg aac gtg gca tgt gat gat ccg tcc tcg ctc gat ttc ctg agg aag | 384 |
| Arg Asn Val Ala Cys Asp Asp Pro Ser Ser Leu Asp Phe Leu Arg Lys | |
| 115 120 125 | |
| att caa gag cgt tca ggt cta ggt gat gag acg tac agt cct gag gga | 432 |
| Ile Gln Glu Arg Ser Gly Leu Gly Asp Glu Thr Tyr Ser Pro Glu Gly | |
| 130 135 140 | |
| ctc att cac gta cca ccg cgg aag act ttt gca gcg tca cgt gaa gag | 480 |
| Leu Ile His Val Pro Pro Arg Lys Thr Phe Ala Ala Ser Arg Glu Glu | |
| 145 150 155 160 | |
| aca gag aag gtt atc atc ggt gcg ctc gaa aat cta ttc gag aac acc | 528 |
| Thr Glu Lys Val Ile Ile Gly Ala Leu Glu Asn Leu Phe Glu Asn Thr | |
| 165 170 175 | |
| aaa gtt aac cct aga gag att ggt ata ctt gtg gtg aac tca agc atg | 576 |
| Lys Val Asn Pro Arg Glu Ile Gly Ile Leu Val Val Asn Ser Ser Met | |
| 180 185 190 | |
| ttt aat cca act cct tcg cta tcc gct atg gtc gtt aat act ttc aag | 624 |
| Phe Asn Pro Thr Pro Ser Leu Ser Ala Met Val Val Asn Thr Phe Lys | |
| 195 200 205 | |
| ctc cga agc aac atc aaa agc ttt aat cta gga gga atg ggt tgt agt | 672 |
| Leu Arg Ser Asn Ile Lys Ser Phe Asn Leu Gly Gly Met Gly Cys Ser | |
| 210 215 220 | |
| gct ggt gtt att gcc att gat ttg gct aaa gac ttg ttg cat gtt cat | 720 |
| Ala Gly Val Ile Ala Ile Asp Leu Ala Lys Asp Leu Leu His Val His | |
| 225 230 235 240 | |
| aaa aac act tat gct ctt gtg gtg agc act gag aac atc aca caa ggc | 768 |
| Lys Asn Thr Tyr Ala Leu Val Val Ser Thr Glu Asn Ile Thr Gln Gly | |
| 245 250 255 | |
| att tat gct gga gaa aat aga tca atg atg gtt agc aat tgc ttg ttt | 816 |
| Ile Tyr Ala Gly Glu Asn Arg Ser Met Met Val Ser Asn Cys Leu Phe | |
| 260 265 270 | |
| cgt gtt ggt ggg gcc gcg att ttg ctc tct aac aag tcg gga gac cgg | 864 |
| Arg Val Gly Gly Ala Ala Ile Leu Leu Ser Asn Lys Ser Gly Asp Arg | |
| 275 280 285 | |
| aga cgg tcc aag tac aag cta gtt cac acg gtc cga acg cat act gga | 912 |
| Arg Arg Ser Lys Tyr Lys Leu Val His Thr Val Arg Thr His Thr Gly | |
| 290 295 300 | |
| gct gat gac aag tct ttt cga tgt gtg caa caa gaa gac gat gag agc | 960 |
| Ala Asp Asp Lys Ser Phe Arg Cys Val Gln Gln Glu Asp Asp Glu Ser | |
| 305 310 315 320 | |

| | |
|---|------|
| ggc aaa atc gga gtt tgt ctg tca aag gac ata acc aat gtt gcg ggg | 1008 |
| Gly Lys Ile Gly Val Cys Leu Ser Lys Asp Ile Thr Asn Val Ala Gly | |
| 325 330 335 | |
| aca aca ctt acg aaa aat ata gca aca ttg ggt ccg ttg att ctt cct | 1056 |
| Thr Thr Leu Thr Lys Asn Ile Ala Thr Leu Gly Pro Leu Ile Leu Pro | |
| 340 345 350 | |
| tta agc gaa aag ttt ctt ttt ttc gct acc ttc gtc gcc aag aaa ctt | 1104 |
| Leu Ser Glu Lys Phe Leu Phe Phe Ala Thr Phe Val Ala Lys Lys Leu | |
| 355 360 365 | |
| cta aag gat aaa atc aag cat tac tat gtt ccg gat ttc aag ctt gct | 1152 |
| Leu Lys Asp Lys Ile Lys His Tyr Tyr Val Pro Asp Phe Lys Leu Ala | |
| 370 375 380 | |
| ggt gac cat ttc tgt att cat gcc gga ggc aga gcc gtg atc gat gag | 1200 |
| Val Asp His Phe Cys Ile His Ala Gly Gly Arg Ala Val Ile Asp Glu | |
| 385 390 395 400 | |
| cta gag aag aac tta gga cta tcg ccg atc gat gtg gag gca tct aga | 1248 |
| Leu Glu Lys Asn Leu Gly Leu Ser Pro Ile Asp Val Glu Ala Ser Arg | |
| 405 410 415 | |
| tca acg tta cat aga ttt ggg aat act tca tct agc tca att tgg tat | 1296 |
| Ser Thr Leu His Arg Phe Gly Asn Thr Ser Ser Ser Ser Ile Trp Tyr | |
| 420 425 430 | |
| gaa tta gca tac ata gag gca aag gga aga atg aag aaa ggg aat aaa | 1344 |
| Glu Leu Ala Tyr Ile Glu Ala Lys Gly Arg Met Lys Lys Gly Asn Lys | |
| 435 440 445 | |
| gct tgg cag att gct tta gga tca ggg ttt aag tgt aat agt gcg gtt | 1392 |
| Ala Trp Gln Ile Ala Leu Gly Ser Gly Phe Lys Cys Asn Ser Ala Val | |
| 450 455 460 | |
| tgg gtg gct cta cgc aat gtc aag gca tcg gca aat agt cct tgg caa | 1440 |
| Trp Val Ala Leu Arg Asn Val Lys Ala Ser Ala Asn Ser Pro Trp Gln | |
| 465 470 475 480 | |
| cat tgc atc gat aga tat ccg gtt aaa att gat tct gat ttg tca aag | 1488 |
| His Cys Ile Asp Arg Tyr Pro Val Lys Ile Asp Ser Asp Leu Ser Lys | |
| 485 490 495 | |
| tca aag act cat gtc caa aac ggt cgg tcc taatttgatg tatctgagtg | 1538 |
| Ser Lys Thr His Val Gln Asn Gly Arg Ser | |
| 500 505 | |
| ccaacgttta ctttgtcttt cctttctttt attggttatg aattagatgt ttactaatgt | 1598 |
| tcctctcttt ttcgttataa ataaagaagt tcaattcttc ctatagtttc aaacgcgatt | 1658 |
| ttaagcgttt ctatttaggt ttacatgaat ttcttttaca aaccatcttt t | 1709 |

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<211> 506

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<213> Arabidopsis thaliana

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| Met | Thr | Ser | Val | Asn | Val | Lys | Leu | Leu | Tyr | Arg | Tyr | Val | Leu | Thr | Asn | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| Phe | Phe | Asn | Leu | Cys | Leu | Phe | Pro | Leu | Thr | Ala | Phe | Leu | Ala | Gly | Lys | |
| | | 20 | | | | | | 25 | | | | | 30 | | | |
| Ala | Ser | Arg | Leu | Thr | Ile | Asn | Asp | Leu | His | Asn | Phe | Leu | Ser | Tyr | Leu | |
| | 35 | | | | | 40 | | | | | 45 | | | | | |
| Gln | His | Asn | Leu | Ile | Thr | Val | Thr | Leu | Leu | Phe | Ala | Phe | Thr | Val | Phe | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Gly | Leu | Val | Leu | Tyr | Ile | Val | Thr | Arg | Pro | Asn | Pro | Val | Tyr | Leu | Val | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Asp | Tyr | Ser | Cys | Tyr | Leu | Pro | Pro | Pro | His | Leu | Lys | Val | Ser | Val | Ser | |
| | | | 85 | | | | | | 90 | | | | | 95 | | |
| Lys | Val | Met | Asp | Ile | Phe | Tyr | Gln | Ile | Arg | Lys | Ala | Asp | Thr | Ser | Ser | |
| | 100 | | | | | | | 105 | | | | | 110 | | | |
| Arg | Asn | Val | Ala | Cys | Asp | Asp | Pro | Ser | Ser | Leu | Asp | Phe | Leu | Arg | Lys | |
| | 115 | | | | | 120 | | | | | | 125 | | | | |
| Ile | Gln | Glu | Arg | Ser | Gly | Leu | Gly | Asp | Glu | Thr | Tyr | Ser | Pro | Glu | Gly | |
| | 130 | | | | | 135 | | | | | | 140 | | | | |
| Leu | Ile | His | Val | Pro | Pro | Arg | Lys | Thr | Phe | Ala | Ala | Ser | Arg | Glu | Glu | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Thr | Glu | Lys | Val | Ile | Ile | Gly | Ala | Leu | Glu | Asn | Leu | Phe | Glu | Asn | Thr | |
| | | 165 | | | | | | 170 | | | | | | 175 | | |
| Lys | Val | Asn | Pro | Arg | Glu | Ile | Gly | Ile | Leu | Val | Val | Asn | Ser | Ser | Met | |
| | | 180 | | | | | | 185 | | | | | 190 | | | |
| Phe | Asn | Pro | Thr | Pro | Ser | Leu | Ser | Ala | Met | Val | Val | Asn | Thr | Phe | Lys | |
| | 195 | | | | | 200 | | | | | | 205 | | | | |
| Leu | Arg | Ser | Asn | Ile | Lys | Ser | Phe | Asn | Leu | Gly | Gly | Met | Gly | Cys | Ser | |
| | 210 | | | | | 215 | | | | | | 220 | | | | |
| Ala | Gly | Val | Ile | Ala | Ile | Asp | Leu | Ala | Lys | Asp | Leu | Leu | His | Val | His | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Lys | Asn | Thr | Tyr | Ala | Leu | Val | Val | Ser | Thr | Glu | Asn | Ile | Thr | Gln | Gly | |
| | | 245 | | | | | | | 250 | | | | | 255 | | |
| Ile | Tyr | Ala | Gly | Glu | Asn | Arg | Ser | Met | Met | Val | Ser | Asn | Cys | Leu | Phe | |
| | | 260 | | | | | | 265 | | | | | 270 | | | |
| Arg | Val | Gly | Gly | Ala | Ala | Ile | Leu | Leu | Ser | Asn | Lys | Ser | Gly | Asp | Arg | |
| | 275 | | | | | 280 | | | | | | | 285 | | | |
| Arg | Arg | Ser | Lys | Tyr | Lys | Leu | Val | His | Thr | Val | Arg | Thr | His | Thr | Gly | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Ala | Asp | Asp | Lys | Ser | Phe | Arg | Cys | Val | Gln | Gln | Glu | Asp | Asp | Glu | Ser | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Gly | Lys | Ile | Gly | Val | Cys | Leu | Ser | Lys | Asp | Ile | Thr | Asn | Val | Ala | Gly | |
| | | | 325 | | | | | | 330 | | | | | 335 | | |
| Thr | Thr | Leu | Thr | Lys | Asn | Ile | Ala | Thr | Leu | Gly | Pro | Leu | Ile | Leu | Pro | |
| | | 340 | | | | | | 345 | | | | | 350 | | | |
| Leu | Ser | Glu | Lys | Phe | Leu | Phe | Phe | Ala | Thr | Phe | Val | Ala | Lys | Lys | Leu | |
| | 355 | | | | | 360 | | | | | | 365 | | | | |
| Leu | Lys | Asp | Lys | Ile | Lys | His | Tyr | Tyr | Val | Pro | Asp | Phe | Lys | Leu | Ala | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Val | Asp | His | Phe | Cys | Ile | His | Ala | Gly | Gly | Arg | Ala | Val | Ile | Asp | Glu | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| Leu | Glu | Lys | Asn | Leu | Gly | Leu | Ser | Pro | Ile | Asp | Val | Glu | Ala | Ser | Arg | |
| | | | 405 | | | | | | 410 | | | | | 415 | | |
| Ser | Thr | Leu | His | Arg | Phe | Gly | Asn | Thr | Ser | Ser | Ser | Ser | Ile | Trp | Tyr | |
| | | 420 | | | | | | 425 | | | | | 430 | | | |
| Glu | Leu | Ala | Tyr | Ile | Glu | Ala | Lys | Gly | Arg | Met | Lys | Lys | Gly | Asn | Lys | |
| | 435 | | | | | | 440 | | | | | | 445 | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Trp | Gln | Ile | Ala | Leu | Gly | Ser | Gly | Phe | Lys | Cys | Asn | Ser | Ala | Val |
| 450 | | | | | | 455 | | | | | 460 | | | | |
| Trp | Val | Ala | Leu | Arg | Asn | Val | Lys | Ala | Ser | Ala | Asn | Ser | Pro | Trp | Gln |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| His | Cys | Ile | Asp | Arg | Tyr | Pro | Val | Lys | Ile | Asp | Ser | Asp | Leu | Ser | Lys |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Ser | Lys | Thr | His | Val | Gln | Asn | Gly | Arg | Ser | | | | | | |
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 <213> Brassica napus

<220>
 <221> CDS
 <222> (1)...(1521)

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| Met Thr Ser Ile Asn Val Lys Leu Leu Tyr His Tyr Val Ile Thr Asn | |
| 1 5 10 15 | |
| ctt ttc aac ctt tgc ttc ttt ccg tta acg gcg atc gtc gcc gga aaa | 96 |
| Leu Phe Asn Leu Cys Phe Phe Pro Leu Thr Ala Ile Val Ala Gly Lys | |
| 20 25 30 | |
| gcc tat cgg ctt acc ata gac gat ctt cac cac tta tac tat tcc tat | 144 |
| Ala Tyr Arg Leu Thr Ile Asp Asp Leu His His Leu Tyr Tyr Ser Tyr | |
| 35 40 45 | |
| ctc caa cac aac ctc ata acc atc gct cca ctc ttt gcc ttc acc gtt | 192 |
| Leu Gln His Asn Leu Ile Thr Ile Ala Pro Leu Phe Ala Phe Thr Val | |
| 50 55 60 | |
| ttc ggt tcg gtt ctc tac atc gca acc cgg ccc aaa ccg gtt tac ctc | 240 |
| Phe Gly Ser Val Leu Tyr Ile Ala Thr Arg Pro Lys Pro Val Tyr Leu | |
| 65 70 75 80 | |
| gtt gag tac tca tgc tac ctt cca cca acg cat tgt aga tca agt atc | 288 |
| Val Glu Tyr Ser Cys Tyr Leu Pro Pro Thr His Cys Arg Ser Ser Ile | |
| 85 90 95 | |
| tcc aag gtc atg gat atc ttt tat caa gta aga aaa gct gat cct tct | 336 |
| Ser Lys Val Met Asp Ile Phe Tyr Gln Val Arg Lys Ala Asp Pro Ser | |
| 100 105 110 | |
| cgg aac ggc acg tgc gat gac tcg tcg tgg ctt gac ttc ttg agg aag | 384 |
| Arg Asn Gly Thr Cys Asp Asp Ser Ser Trp Leu Asp Phe Leu Arg Lys | |
| 115 120 125 | |
| att caa gaa cgt tca ggt cta ggc gat gaa act cac ggg ccc gag ggg | 432 |
| Ile Gln Glu Arg Ser Gly Leu Gly Asp Glu Thr His Gly Pro Glu Gly | |
| 130 135 140 | |
| ctg ctt cag gtc cct ccc cgg aag act ttt gcg gcg gcg cgt gaa gag | 480 |
| Leu Leu Gln Val Pro Pro Arg Lys Thr Phe Ala Ala Ala Arg Glu Glu | |

| 145 | 150 | 155 | 160 | |
|---|-----|-----|-----|------|
| acg gag caa gtt atc att ggt gcg cta gaa aat cta ttc aag aac acc | | | | 528 |
| Thr Glu Gln Val Ile Ile Gly Ala Leu Glu Asn Leu Phe Lys Asn Thr | | | | |
| | 165 | 170 | 175 | |
| aac gtt aac cct aaa gat ata ggt ata ctt gtg gtg aac tca agc atg | | | | 576 |
| Asn Val Asn Pro Lys Asp Ile Gly Ile Leu Val Val Asn Ser Ser Met | | | | |
| | 180 | 185 | 190 | |
| ttt aat cca act cca tcg ctc tcc gcg atg gtc gtt aac act ttc aag | | | | 624 |
| Phe Asn Pro Thr Pro Ser Leu Ser Ala Met Val Val Asn Thr Phe Lys | | | | |
| | 195 | 200 | 205 | |
| ctc cga agc aac gta aga agc ttt aac ctt ggt ggc atg ggt tgt agt | | | | 672 |
| Leu Arg Ser Asn Val Arg Ser Phe Asn Leu Gly Gly Met Gly Cys Ser | | | | |
| | 210 | 215 | 220 | |
| gcc gcc gtt ata gcc att gat cta gca aag gac ttg ttg cat gtc cat | | | | 720 |
| Ala Gly Val Ile Ala Ile Asp Leu Ala Lys Asp Leu Leu His Val His | | | | |
| | 225 | 230 | 235 | 240 |
| aaa aat acg tat gct ctt gtg gtg agc aca gag aac atc act tat aac | | | | 768 |
| Lys Asn Thr Tyr Ala Leu Val Val Ser Thr Glu Asn Ile Thr Tyr Asn | | | | |
| | 245 | 250 | 255 | |
| att tac gct ggt gat aat agg tcc atg atg gtt tca aat tgc ttg ttc | | | | 816 |
| Ile Tyr Ala Gly Asp Asn Arg Ser Met Met Val Ser Asn Cys Leu Phe | | | | |
| | 260 | 265 | 270 | |
| cgt gtt ggt ggg gcc gct att ttg ctc tcc aac aag cct gga gat cgt | | | | 864 |
| Arg Val Gly Gly Ala Ala Ile Leu Leu Ser Asn Lys Pro Gly Asp Arg | | | | |
| | 275 | 280 | 285 | |
| aga cgg tcc aag tac gag cta gtt cac acg gtt cga acg cat acc gga | | | | 912 |
| Arg Arg Ser Lys Tyr Glu Leu Val His Thr Val Arg Thr His Thr Gly | | | | |
| | 290 | 295 | 300 | |
| gct gac gcc aag tct ttt cgt tgc gtg caa caa gga gac gat gag aac | | | | 960 |
| Ala Asp Gly Lys Ser Phe Arg Cys Val Gln Gln Gly Asp Asp Glu Asn | | | | |
| | 305 | 310 | 315 | 320 |
| ggc aaa atc gga gtg agt ttg tcc aag gac ata acc gat gtt gct ggt | | | | 1008 |
| Gly Lys Ile Gly Val Ser Leu Ser Lys Asp Ile Thr Asp Val Ala Gly | | | | |
| | 325 | 330 | 335 | |
| cga acg gtt aag aaa aac ata gca acg ttg ggt ccg ttg att ctt ccg | | | | 1056 |
| Arg Thr Val Lys Lys Asn Ile Ala Thr Leu Gly Pro Leu Ile Leu Pro | | | | |
| | 340 | 345 | 350 | |
| tta agc gag aaa ctt ctt ttt ttc gtt acc ttc atg ggc aag aaa ctt | | | | 1104 |
| Leu Ser Glu Lys Leu Leu Phe Phe Val Thr Phe Met Gly Lys Lys Leu | | | | |
| | 355 | 360 | 365 | |
| ttc aaa gat aaa atc aaa cat tac tac gtc ccg gat ttc aaa ctt gct | | | | 1152 |
| Phe Lys Asp Lys Ile Lys His Tyr Tyr Val Pro Asp Phe Lys Leu Ala | | | | |
| | 370 | 375 | 380 | |

